(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
9 August 2001 (09.08.2001)

PCT

(10) International Publication Number
WO 01/58178 A2

(51) International Patent Classification[7]: H04Q 7/00

(21) International Application Number: PCT/HU01/00014

(22) International Filing Date: 7 February 2001 (07.02.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
P 0000525 7 February 2000 (07.02.2000) HU
P 0002268 14 June 2000 (14.06.2000) HU

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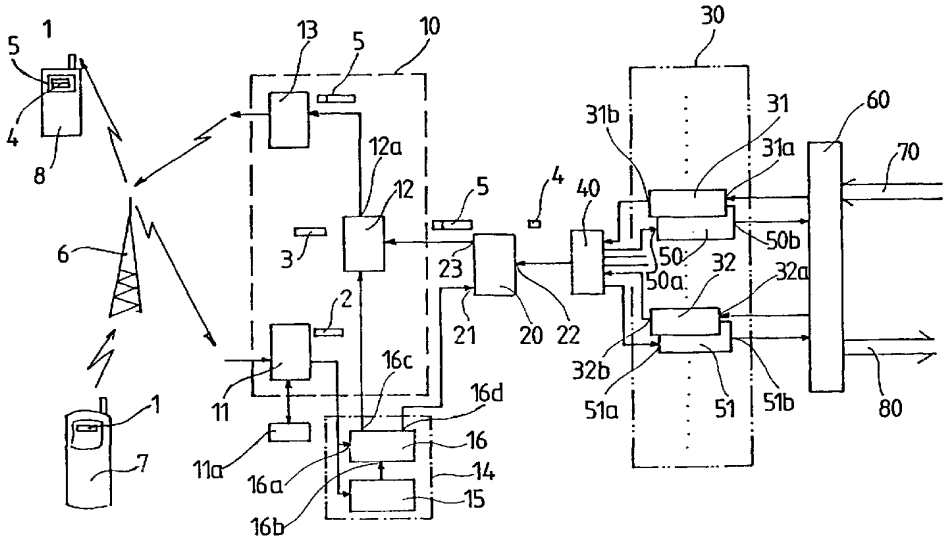
(81) Designated States *(national)*: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SET OF EQUIPMENT FOR THE SUPPLEMENTATION AND FORWARDING OF TEXT MESSAGES



(57) Abstract: The invention relates to a set of equipment for the supplementation and forwarding of text messages, which has a message centre suitable for handling primary text messages sent on a radio-telecommunication network, e.g. GSM-network, and this message centre has an input unit serving to receive the primary text messages and an output unit suitable for forwarding the text messages that have arrived. The characteristic feature of the invention is that, between the input unit (11) and the output unit (13) there is a text linking unit (20) inserted, and connected to the text linking unit (20) there is a temporary accepting unit (30) suitable for storing a supplementary text message part (4) and for reading it into the text linking unit (20).

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Set of equipment for the supplementation and forwarding of text messages

The invention relates to a set of equipment for the supplementation and forwarding of text messages, which has a message centre suitable for handling primary text messages sent on a radio-telecommunication network, e.g. GSM-network, and this message centre has an input unit serving to receive the primary text messages and an output unit suitable for forwarding the text messages that have arrived.

With the recent rapid expansion of telecommunications realised with the help of mobile telephones, traffic in short text messages, so-called SMSs serving to transmit information between mobile telephones has gained increasing ground. Among others the PCT document No. WO 97 31498 and patent description No. HU P 98 02109 describe solutions in connection with the transmission of such short text messages. During the transmission of the short text messages the person sending the message contacts a message centre through the GSM-network in a way that is known in itself, which message centre receives the message from the sending mobile telephone, analyses it, and finally sends it to the receiving mobile telephone that it was intended for.

With the set of equipment according to the invention our aim is to further develop the message centre suitable for forwarding such short text messages in such a way so that within a determined framework the swapping of messages between subscribers using the services of the GSM-network be also suitable for the forwarding of advertising and other public interest messages.

The basis of the idea of the invention was formed by the recognition that using a suitably selected set of equipment, whilst remaining secret, the short text messages transmitted between people using a mobile telephone service may be added to, in other words supplementary text message parts containing advertising or other public interest information may be linked to the primary text message. The message centre may be extended with intelligent stores and character handling units which using determined algorithms are able to automatically unite two different series of characters and so the task mat be solved.

In accordance with the set aim the set of equipment according to the invention for the supplementing and forwarding of text messages – which has a message centre suitable for handling primary text messages sent on a radio-telecommunication network, e.g. GSM-network, and this message centre has an input unit serving to receive the primary text messages and an output unit suitable for forwarding the text messages that have arrived – is formed in such a way that between the input unit and the output unit there is a text linking unit inserted, and connected to the text linking unit there is a temporary accepting unit suitable for storing the supplementary text message part and for reading it into the text linking unit.

A further criterion of the set of equipment according to the invention may be that there is an intermediate storage unit inserted between the input unit and the output unit for the temporary storage of the checked text message, and the text linking unit is connected to the intermediate storage unit.

In one version of the solution the set of equipment is supplemented with a condition examining part-unit, the condition examining part-unit has a character counting subunit and a control subunit that is connected to the character counting subunit, one of the inputs of the control subunit is connected to the input unit, and its second input is connected to the character counting subunit, while the first outputs of the control subunit is connected to the intermediate storage unit and its second output is connected to the first input of the text linking unit.

In one of the construction forms of the set of equipment the temporary accepting unit consists of two or more text storage part-units, and the outputs of the individual text storage part-units are connected to the second input of the text linking unit through the text selection unit.

In a further version of the invention all of the individual text storage part-units are supplemented with a performance counting part-unit.

From the point of view of the set of equipment it may be favourable if the inputs of the individual text storage part-units are connected to a data input channel through a client identification unit. And the outputs of the performance counting part-units belonging to the individual text storage part units are connected to the information transferring channel through the client identification unit.

In a further version of the invention the input unit is supplemented with a incoming message counter.

The advantage of the set of equipment according to the invention is that with its application the services of the simple message centres can be greatly extended, and the short text messages can be transmitted further supplied with advertising or other public interest information, which creates the possibility of using short text messages for wide ranging advertising purposes.

Deriving from this advantage due to the advertisements attached to the messages for the direct and effective advertising possibility the advertising companies pay a fee to the operator of the message centre, with which they partially or completely undertake the operation costs of the message centre. As a result of this income the costs of the SMS service falling on the mobile telephone users are significantly reduced, in other words the application of the set of equipment has a favourable result for all of the participants.

A further advantage is that the use of the set of equipment creates the possibility for sending several different supplementary text message parts, for counting the use of the individual supplementary text message parts, in other words the creation of the conditions for accounting the occasions of advertising or other public interest services.

In connection with a construction example we present the set of equipment according to the invention in greater detail on the basis of a drawing. On the drawing
figure 1 is the flowchart of a possible construction version of the set of equipment.

On figure 1 a possible version of the set of equipment according to the invention can be

seen. It can be observed that between the sending mobile telephone 7 producing the primary text message 1, the GSM-network 6 and the receiving mobile telephone 8 displaying the linked message 5, the message centre 10 creates the message traffic containing the characters. In this version the message centre 10 has an input unit 11 serving to receive the arrived text message 2, an output unit 13 suitable for forwarding the linked message 5, and furthermore, an intermediate storage unit 12 used for temporary acceptance of the checked text message 3.

In this construction version the input unit is, on the one part, connected to the incoming message counter 11a, and on the second part, to the condition examining part unit 14. The condition examining unit 14 consists of the character counter subunit 15 and the control subunit 16. Apart from the character counter subunit 15 the input unit 11 is also connected to the control subunit 16 through one of its inputs 16a. The other input 16b of the control subunit 16 is connected to the character counter subunit 15, while one of the outputs 16c of the control subunit 16 is connected to the intermediate storage unit 12, and its other output 16d is connected to one of the inputs 21 of the text linking unit 20.

The intermediate storage unit 12 is connected to the text linking unit 20 through its output 23, then through its own output 12a it is connected to the output unit 13.

The other input 22 of the text linking unit 20 is in connection with the temporary accepting unit 30 through the text selection unit 40. In the present construction version of the temporary accepting unit 30 contains the text storage part-unit 31 and the text storage part-unit 32. We have to note here that the temporary accepting unit 30 may contain several further text storage part-units similar to the text storage part-unit 31 and the text storage part-unit 32 depending on how many types of supplementary text message part 4 we wish to build into the linked message 5.
Figure 1 also illustrates that the text storage part-unit 31 belonging to the temporary accepting unit 30 is supplemented with the performance counting part-unit 50, while the text storage part-unit 32 is supplemented with the performance counting part-unit 51.

The set of equipment may also include a client identification unit 60, which on the side of

the clients paying for the transmission of the supplementary text message parts 4 containing advertisements or other public interest information may have a data input channel 70 and a information transferring channel 80. Apart from this the client identification unit 60 is connected to the input 31a of the text storage part-unit 31, to the input 32a of the text storage part-unit 32, and furthermore, to the output 50b of the performance counting part-unit 50 and to the output 51b of the performance counting part-unit 51.

It may also be observed that the output 31b of the text storage part-unit 31 and the input 50a of the performance counting part-unit 50, and furthermore, the output 32b of the text storage part-unit 32 and the input 51a of the performance counting part-unit 51 are connected to the text selection unit 40.

During the use of the set of equipment following the sending of the primary text message 1 edited on the sending mobile telephone 7, the content of which can be treated as confidential, it gets to the input unit 11 of the message centre 10 with the mediation of the GSM-network 6. The incoming message counter 11a registers receiving the primary text message 1 and forwards the arrived text message 2 to the conditioning examining part-unit 14.

The character counter subunit 15 counts the amount of characters in the arrived text message 2 that has reached the condition examining part-unit 14, and then sends the received value through the second input 16b to the control subunit 16. Beside the character counter subunit 15, the input unit 11 also forwards the arrived text message 2 through the first input 16a to the control subunit 16.

When the arrived text message 2 appears at the first input 16a of the control subunit 16, and the amount of characters of the arrived text message 2 at its second input, then the control subunit 16 decides whether the number of characters of the arrived text message 2 is less than the total number of characters that may be used in the message transmission.

If the number of characters of the arrived text message 2 is equal to the maximum number of characters, then the control subunit 16 sends the checked text message 3 through its first

output 16c to the intermediate storage unit 12. The checked text message 3 arriving at the intermediate storage unit 12 goes to the output unit 13 through the output 12a without any further change, and from there it goes to the receiving mobile telephone 8 through the GSM-network 6. In the above described case a message appears on the receiving mobile telephone 8 that is in practice the same as the primary text message 1, the linking and forwarding service of the supplementary text message part does not take place.

If the number of characters coming out of the character counter subunit 15 of the control subunit 16 going into the second input 16b is less than the permissible total number of characters, then the arrived text message 2 arrives in the text linking unit 20 through the second output 16b of the control subunit 16 and the first input 21 of the text linking unit 20. The text linking unit 20 attaches a supplementary text message part 4 to the arrived text message 2 appearing at the first input 21 of the text linking unit 20 in the following way.

The text selection unit 40 selects a supplementary text message part 4 that has a number of characters at the most equal to the number of characters in the arrived text message 2 and the maximum transmittable number of characters from either of the text storage part units 31, 32 and sends it through the second input 22 of the text linking unit 20 to the text linking unit 20. The text linking unit 20 inserts the supplementary text message part containing advertising or public interest information either in front of or after the arrived text message 2, and then sends this now linked message 5 through the output 23 of the text linking unit 20 to the intermediate storage unit. The intermediate storage unit 12 forwards the linked message 5 that has arrived through the output 12a to the output unit 13, which sends the linked message 5 consisting of the primary text message 1 and the supplementary text message part 4 through the GSM-network 6 to the receiving mobile telephone 8.
The supplementary text message parts 4 that may be selected by the text selection unit 40, which have differing content and number of characters are situated in the text storage part-unit 31 and the text storage part-unit 32.

The content of the text storage part-units of the temporary accepting unit may be modified using the data input channel 70 of the client identification unit 60 in such a way that the client providing the advertising message sends the supplementary text message part 4 with

the desired content through the data input channel 70 to the client identification unit 60. The client identification unit examines the content of the information arriving on the data input channel 70, the identification data of the parties sending the information and also which text storage part-unit of the temporary accepting unit 30 the supplementary text message part 4 that is to be uploaded to.

If all the information that arrives is acceptable then the client identification unit 60 loads the supplementary text message part 4 arriving on the data input channel 70, for example, through the input 31a into the text storage part-unit 31. When it becomes possible to link the supplementary text message part 4 placed in the text storage part-unit 31 in the text linking unit 20, then the content of the text storage part-unit 31 goes through the output 31b to the text selection unit 40, and then through the second input 22 to the text linking unit 20.

At the same that the supplementary text message part 4 placed in the text storage part-unit 31 is copied from there into the text linking unit 20, a signal appears at input 50a of the performance counting part-unit 50 belonging to the text storage part unit 31 certifying the use, in other words the selection for linking. Due to the arrival of the signal at input 50a the number stored in the performance counting part-unit 50 increases by one, which in this way equals the number of uses of the given supplementary text message part 4.

When the client using the text storage part-unit 31 wishes to know how many times the supplementary text message part 4 uploaded by it was linked to the arrived text messages 2, then it downloads the data content of the performance counting part-unit 50 through the client identification unit 60 to the information transferring channel 80, with which the checking may also be realised.

Beside that described above a version of the set of equipment may be imagined where the number of characters in the primary text messages 1 sent to the input unit 11 of the message centre 10 is restricted, and so the arrived text message 2 appearing at the input unit 11 can be directly transferred to the first input 21 of the text linking unit 20 without going through the condition examining part-unit 14. In such a case in the text linking unit 20 a

supplementary text message part 4 may be linked to the original arrived text message 2 with a number of characters equal to the value between the restricted number of characters and the maximum number of characters.

Another version of the set of equipment may be used in such a case when the primary text message 1 is extended in all circumstances regardless of its length with a supplementary text message part. In such a case the arrived text message 2 is broken up into two or more parts by the condition examining part unit 14, and forwards tall of the separated message parts each supplied with a supplementary text message part to the recipient as a linked message 5 consisting of several parts.

So the set of equipment according to the invention can be used well in all circumstances to link the text messages written by the user to messages with other purposes, and to forward them in such a linked message form, also in the case of any text messages to be transmitted through a radio telecommunication network.

List of references

1 primary text message
2 incoming text message
3 checked text message
4 supplementary text message part
5 linked message
6 GSM-network
7 sending mobile telephone
8 receiving mobile telephone

10 message centre

11 input unit
11a incoming message counter
12 intermediate storage unit
13 output unit
14 condition examining part-unit
15 character counter sub-unit
16 control sub-unit
16a first input
16b second input
16c first output
16d second output

20 text-linking unit

21 first input
22 second input
23 output

30 temporary holding unit

31 text storage part-unit
31a input
31b output
32 text storage part-unit
32a input
32b output

40 text selection unit

50 performance counting part-unit

50a input
50b output

51 performance counting part-unit

51a input
51b output

60 client identification unit

70 data input channel

80 information transferring channel

Claims

1. A set of equipment for the supplementation and forwarding of text messages, which has a message centre (10) suitable for handling primary text messages (1) sent on a radio-telecommunication network, e.g. GSM-network, and this message centre (10) has an input unit (11) serving to receive the primary text messages (1) and an output unit (13) suitable for forwarding the text messages that have arrived, **characterised** by that, between the input unit (11) and the output unit (13) there is a text linking unit (20) inserted, and connected to the text linking unit (20) there is a temporary accepting unit (30) suitable for storing a supplementary text message part (4) and for reading it into the text linking unit (20).

2. The set of equipment according to claim 1, **characterised** by that, there is an intermediate storage unit (12) inserted between the input unit (11) and the output unit (13) for the temporary storage of a checked text message (3), and the text linking unit (20) is connected to the intermediate storage unit (12).

3. The set of equipment according to claims 1 or 2, **characterised** by that, it is supplemented with a condition examining part-unit (14), the condition examining part-unit (14) has a character counting subunit (15) and a control subunit (16) that is connected to the character counting subunit (15), one of the inputs (16a) of the control subunit (16) is connected to the input unit (11), and its second input (16b) is connected to the character counting subunit (15), while one of the outputs (16c) of the control subunit (16) is connected to the intermediate storage unit (12) and its second output (16d) is connected to the first input (21) of the text linking unit (20).

4. The set of equipment according to claims 1-3, **characterised** by that, the temporary accepting unit (30) consists of two or more text storage part-units (31, 32), and the outputs (31b, 32b) of the individual text storage part-units (31, 32) are connected to the second input (22) of the text linking unit (20) through a text selection unit (40).

5. The set of equipment according to claim 4, **characterised** by that, the individual text storage part-units (31, 32) are supplemented with performance counting part-units (50,51).

6. The set of equipment according to claims 4 or 5, **characterised** by that, the inputs (31a, 32a) of the individual text storage part-units (31, 32) are connected to a data input channel (70) through a client identification unit (60).

7. The set of equipment according to claims 5 or 6, **characterised** by that, the outputs (50b, 51b) of the performance counting part-units (50, 51) belonging to the individual text storage part units (31, 32) are connected to an information transferring channel (80) through the client identification unit (60).

8. The set of equipment according to any of claims 1-7, **characterised** by that, the input unit (11) is supplemented with a incoming message counter (11a).

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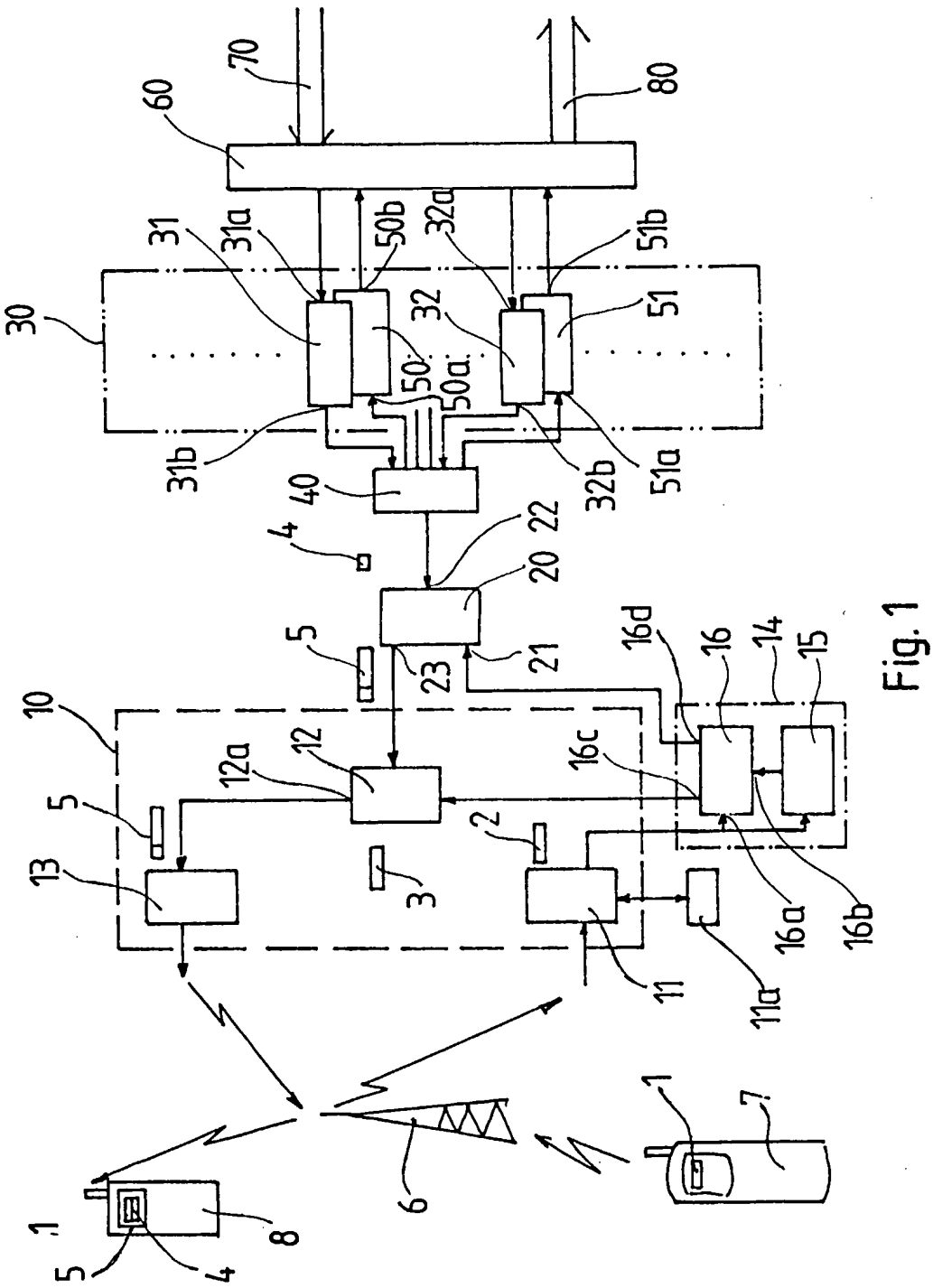
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Fig. 1